

MULTIMEDIA



UNIVERSITY®

STUDENT ID NO

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MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2017 / 2018

PCA0075 – COMPUTER APPLICATIONS AND WEB DESIGN

(Foundation in English)

11 OCTOBER 2017
9.00 a.m. – 11.00 a.m.
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of **FOUR** pages excluding the cover page.
2. Attempt **ALL** questions. All questions carry equal marks and the distribution of the marks for each question is given.
3. Write your answers in the Answer Booklet.

QUESTION 1 [20 Marks]

- a. "Ice World Inc." is a climate research company which conducts research through computer simulations, and also provides weather projection data for the world's news outlets. It is a large company that hosts its own website and a huge database of weather data.
- i) State **FOUR (4)** types of computers likely in use at Ice World Inc. (4 marks)
 - ii) Briefly describe each of the **FOUR (4)** types of computers you provided. (4 marks)
 - iii) Briefly describe how each of these **FOUR (4)** types of computers may be used at Ice World Inc. (4 marks)
 - iv) For each of the **FOUR (4)** types of computers, identify if it belongs under the category of computers for individuals or organisations. (4 marks)
- b. "Ice World Inc." just received a very large amount of funding for a new research project. The research project will involve moderate amounts of data and the specialized computers processing the data will need constant access to various parts of the data at high access speeds. The company is currently trying to decide between "hard disk drives", "solid state drives" and "optical drives" as their storage solution. Briefly discuss the advantages and disadvantages of each of these solutions. Also state which of these storage options is the best solution for their project. (4 marks)

QUESTION 2 [20 Marks]

- a. Daniel, a YouTuber, is setting up a new studio where he can focus on his YouTube channel. His channel mostly features vocal covers of popular songs and funny sketches performed with his friends. He usually writes scripts for his sketches in his computer, but he keeps his work paperless.
- i) What are the **FOUR (4)** most important types of input devices for his studio and what would he use each type of device for? (8 marks)
 - ii) Name one type of output device that he will likely not have in his studio? (1 mark)
 - iii) Daniel is trying to decide between LED and Plasma displays for his studio. Briefly describe **TWO (2)** characteristics of each display type. (4 marks)

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- b. Daniel will be purchasing various software for his studio's computers.
- i) Name **ONE (1)** type of graphics and media software which is absolutely critical to Daniel's studio.
(1 mark)
 - ii) Based on your answer in i), give **ONE (1)** example of the type of software.
(1 mark)
 - iii) If Daniel does not purchase the software you mentioned in ii), he can simply use YouTube's built-in editor. What is software launched from a browser typically known as?
(1 mark)
 - iv) Daniel would love to keep in touch with his channel subscribers. List **FOUR (4)** types of communication software that would be suitable for this purpose.
(4 marks)

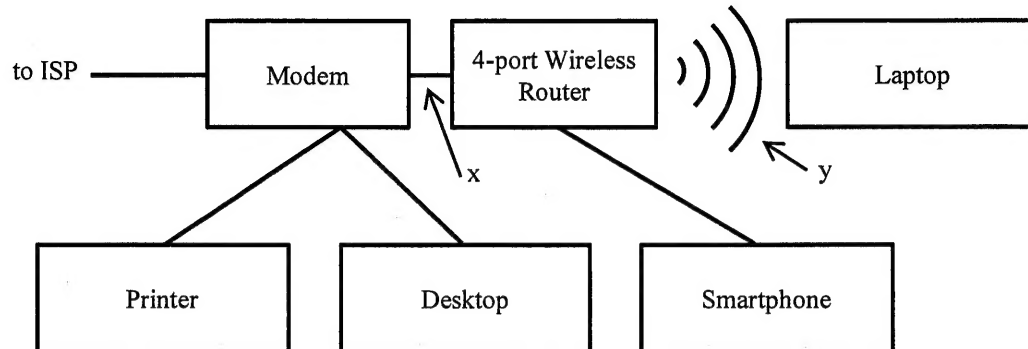
QUESTION 3 [20 Marks]

- a. For each of the graphics editing activities below, describe what happens to the image when the activity is performed in vector graphics software versus if it is performed in bitmap graphics software.
- i) A small circle is drawn. The file is saved, closed and reopened. The circle is selected, then enlarged 20 times.
(2 marks)
 - ii) A blue square is drawn. A red square is drawn inside the blue square. The file is saved, closed and reopened. The red square is selected and moved outside of the blue square.
(2 marks)
- b. Explain why the two types of software behave as you described in question a). You may wish to support your explanation by describing the characteristics of the two types of graphics.
(6 marks)
- c. Frequency and loudness are two characteristics of sound. What is the unit of measurement for each of these characteristics? Provide the short form of those units.
(4 marks)
- d. Audio quality for digital audio is affected by **TWO (2)** main factors.
- i) Name these **TWO (2)** factors.
 - ii) Briefly describe what they measure.
 - iii) What are the unit of measurement for each of these factors?
(6 marks)

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QUESTION 4 [20 Marks]

Consider the following diagram of a home network. Questions a, b, c and d refer to this diagram. The black lines between devices represent wires.



- a. Identify the **THREE (3)** mistakes in this diagram. For each mistake, describe the correct connections to be made. (6 marks)
- b. The modem is connected to the router using a wire (marked 'x'). In a typical home network:
 - i) What type of wire should be used?
 - ii) Describe this type of wire briefly.
 - iii) What is the name of the connector used for this wire?
 (3 marks)
- c. The laptop is communicating with the network using a technology that does not require a physical connection (marked 'y').
 - i) What type of wave does this technology use?
 - ii) What is the name of this type of LAN technology / protocol? Give both the short name and what it stands for.
 (3 marks)
- d. What does ISP stand for in this diagram and what is their function? (2 marks)
- e. Identify and describe **THREE (3)** major features of the World Wide Web. E.g. A "web page" refers to a single page on the World Wide Web, usually created using HTML or Web authoring software. (6 marks)

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QUESTION 5 [20 Marks]

- a. What is the term for each of these situations?
- Ali downloads a key generator and generates a key to register his software.
 - Ana makes 10 copies of a software with a single-user license agreement and gives it to all her friends.
 - Bala guesses the password on his roommate's computer and goes through his friend's files.
 - Cathy's company only allows work related software on their employee laptops. She downloads and installs games to play on her laptop.
 - Dolah picks up his friend's unattended phone while it is still unlocked and quickly takes a picture of his friend's sister's phone number and birthday.
 - Ernest surfs the web all day, skipping school and ignoring his family. When his mother locks up his keyboard and mouse, he loses his temper and shouts.

(5 marks)

- b. Consider the following two cases carefully.

Case A	<p>Muthu is a security enthusiast and found a way to access his university's keycard server as an administrator. He uses the access to unlock all the doors in the university including doors to sensitive labs and lecturer rooms. He left a message on the server "Your security sucks hahaha."</p> <p>It took some time for the intrusion to be detected, and as a result some equipment were stolen and damaged as a result. He was later caught and suspended for 1 trimester.</p>
Case B	<p>Mary finds it hard to find her lecturer's contact numbers. She writes a program to retrieve data from staff directory and MMLS. She builds a website that allows people to search for contacts and offered it as a free service to all students and lecturers.</p> <p>The university asks her to take down her website since she had revealed some lecturers' handphone numbers to the public against their wishes. However, the university later works with her to build various information portals.</p>

- Based on their actions, what are two different terms that best describe Muthu and Mary respectively?
(2 marks)
- Based on your answers in i), explain the differences between Case A and B.
(6 marks)
- As a result of Muthu's attack, what are the two security events that happened in Case A?
(2 marks)
- In Case B, by revealing their handphone numbers, Mary accidentally robbed some lecturers of their rights. What right is this? Describe **FOUR (4)** ways you can protect this right.
(5 marks)

End of Paper